

What is claimed is:

1. A network device operable to:
detect a failure along an ingress region of a primary path; and
re-route traffic from the primary path associated with an original Internet Protocol (IP) address to an alternate path which includes the device using a forwarding table that includes IP and Multi-Protocol Label Switched (MPLS) routing information while associating the original IP address to the alternate path upon detection of the failure.
2. The device as in claim 1 further operable to allow traffic to travel along the primary path when the failure is no longer detected.
3. The device of claim 1 wherein, the device is a multi-protocol label switched (MPLS) device and the primary and alternate paths are label switched paths (LSPs).
4. The device of claim 1 wherein the failure is at a network device neighboring the device or along a link between the device and the neighboring network device.
5. A network device operable to:
receive a failure message;
re-route traffic from a primary path associated with an original IP address to an alternate path using a forwarding table that includes IP and MPLS routing information, said rerouting maintaining the original address, the alternate path comprising devices which maintain the same quality of service as the primary path and are not a part of the primary path except for the network device and a destination network device.
6. The device as in claim 5 further operable to allow traffic to travel along the primary path when the failure is no longer detected.
7. The device of claim 5 wherein, the network device is a MPLS device and the primary and alternate paths are LSPs.
8. The device of claim 5 wherein, the quality of service is associated with at least one of the set consisting of bandwidth, delay, delay jitter, and packet loss rate.
9. A method for re-routing traffic comprising the steps of:
detecting a failure along an ingress region of a primary path;

re-routing traffic from the primary path associated with an original IP address to an alternate path which includes a source device using a forwarding table that includes IP and MPLS routing information while associating the original address to the alternate path upon detection of the failure.

10. The method as in claim 9 further comprising the step of allowing traffic to travel along the primary path when the failure is no longer detected.

11. The method of claim 9 wherein the primary and alternate paths are LSPs.

12. The method as in claim 9 wherein the failure is at a network device neighboring an initiating network device or along a link between the initiating device and the neighboring network device.

13. A method for re-routing traffic comprising the steps of:

receiving a failure message;

re-routing traffic from a primary path associated with an original IP address to an alternate path using a forwarding table that include IP and MPLS routing information, said rerouting maintaining the original address, the alternate path comprising devices which maintain the same quality of service as the primary path and are not a part of the primary path except for an initiating network device and a destination network device.

14. The method as in claim 13 further comprising the step of allowing traffic to travel along the primary path when the failure is no longer detected.

15. The method of claim 13 wherein the primary and alternate paths are LSPs.

16. The method of claim 13 wherein, the quality of service is associated with at least one of the set consisting of bandwidth, delay, delay jitter, and packet loss rate.

17. A network device comprising:

means for detecting a failure along an ingress region of a primary path;
and

means for re-routing traffic from the primary path associated with an original IP address to an alternate path which includes the device using a forwarding table that includes Internet Protocol (IP) and Multi-Protocol Label Switched (MPLS) routing information while associating the original IP address to the alternate path upon detection of the failure.

18. The device as in claim 17 further comprising means for allowing traffic to travel along the primary path when the failure is no longer detected.

19. The device of claim 17 wherein the device is a MPLS device and the primary and alternate paths are LSPs.

20. The device of claim 17 wherein the failure is at a network device neighboring the device or along a link between the device and the neighboring network device.

21. A network device comprising:

means for receiving a failure message;

means for re-routing traffic from a primary path associated with an original IP address to an alternate path using a forwarding table that includes IP and MPLS routing information, said means for re-routing maintaining the original address, the alternate path comprising devices which maintain the same quality of service as the primary path and are not a part of the primary path except for the network device and a destination network device.

22. The device as in claim 21 further comprising means for allowing traffic to travel along the primary path when the failure is no longer detected.

23. The device of claim 21 wherein, the network device is a MPLS device and the primary and alternate paths are LSPs.

24. The device of claim 21 wherein, the quality of service is associated with at least one of the set consisting of bandwidth, delay, delay jitter, and packet loss rate.